When the action of the poison was slower, there was often no visible effect for hours or days. At first there was always a little discomfort from the taste of the poison, but this soon subsided, and then for a day or more the animal appeared to be in perfect health. It would go about as usual, would be quite lively in its movements, would eat its food heartily, and in fact would seem to be in no way affected by the poison. Suddenly, however, it would look distressed, it would have an attack of vomiting, and it would tumble over in an epileptic fit. When this had subsided, it was generally found that the animal was weak, or even quite paralyzed in its hind extremities; and after two or three of such attacks, the loss of voluntary power would extend to the fore limbs. The animal would lie upon its side perfectly helpless, and then the progress of the case was much the same as that already described, except that it was considerably slower. Consciousness, for example, would be retained for days after the animal was paralyzed, and, although it was quite unable to stand, it would take food and drink when they were put into its mouth. The condition in which it lay was most distressing; the look was anxious and full of fear; the limbs were in constant motion; and every now and then there would be a violent struggle, as if the animal was in a fit, or was making fruitless efforts to rise. This would last for days, and then there would be either a gradual restoration of voluntary power with complete recovery, or death from exhaustion. The time that elapsed from the administration of the poison to the coming on of the first symptoms—namely, the epileptic fit, varied from nineteen hours to seventy-two, in most cases it was about two days, and the time of death four days.

In commenting on these facts, Dr. Letheby dwells on their immense importance to the medical jurist and physiologist. They indicate, he thinks, a reducing power in the animal body by the conversion of nitrobenzole into aniline. He has endeavoured to ascertain whether this is due to a living or a dead process; and he finds that while contact with dead matter does convert nitrobenzole into aniline, there is a great similarity of action between the physiological effects of nitrobenzole and of aniline. The post-mortem appearances are also much the same. He adds, that not only is there a probable conversion of nitrobenzole into aniline in the living body, by a process of reduction, but that there is also undoubtedly a change of an opposite character going on upon the surface of the body, whereby the salts of aniline are oxidized, and converted into mauve or magenta purple. The author gives a case of this character, in which a boy, aged sixteen, was brought into the London Hospital in a semi-comatose condition, owing to his having breathed an atmosphere charged with the alkaline vapour while scrubbing out the inside of an aniline vat. He was suddenly seized with giddiness and insensibility After passing through stages like those of intoxication he rallied, but it was observed that his face had a purple hue, and that the lips and lining membrane of his mouth and his nails had the same purple tint. The next day even he had the hue of a person suffering from Asiatic cholera.—*Brit. and For. Med.-Chir. Rev.*, Oct. 1863, from *Proceedings of the Royal Soc.*, part 3, 1863.

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48. *Bichromate of Potassa as a Poison.*—One of the most important papers on toxicology published within the last few years is by MM. A. Chevalier and Dr. Bécourt, on bichromate of potassa. The report of these investigators, though not official, is of great public, not less than of scientific interest. It conveys to us a series of new facts in regard to a particular poisonous salt, and it proves that the effects of this poison tell on certain branches of industry, producing wholesale mischiefs.

By an accident, one of the reporters met with a man who was engaged in a manufactory of chromate of potassa, and who was suffering from a peculiar ulceration of the face; from this case they obtained an idea that the manufacture was attended with serious mischiefs, but they failed to obtain from the man any very satisfactory evidence.

At last, from the director of a manufactory at Graville, they obtained a series of facts from which they learned that the workers were subjected to disease. In transforming the neutral chromate of potassa by means of acid into bichromate, the vapour arising carries with it an infinity of pulverized molecules of the product, which spread through the workshop. The cloud of particles is easily visible in a ray of sunlight. The molecules, inspired in abundance, give to the palate a bitter and very disagreeable taste; but as profuse salivation is the result, the chromate is thrown off in the saliva, and has not time to inflict any permanent injury. If, however, the respiration be made by the nose, the molecules are dissolved in the layer of secretion which lies on the membrane of the septum of the nose, creating a violent pricking, suffusion of tears, and irresistible sneezing. In time the membrane begins to be thrown off, and portions of it are carried into the handkerchief, used in blowing the nose; this process goes on, when once started, so rapidly that after a period of six or eight days the septum becomes thin, permeated with openings, and is ultimately detached altogether. At this point, all the symptoms that have been described cease, and the workman scarcely notices the loss of the nasal partition.

The reporters state that this process of ulceration of the septum of the nose occurs in every workman, except in those who take snuff. In these, owing to the layer of powdered tobacco which covers the membrane, and the frequent use of the handkerchief, the evil is removed, or rather prevented.

On the skin in its normal state, the epidermis being intact, the bichromate exerts no baneful influence; the hand may in fact be plunged into a concentrated and hot solution of the salt, without fear; the hand may also remain covered with the salt for an entire day, without any observed effect; but if the skin is torn or abraded, however triflingly—by the prick of a pin, for example—a sharp pain is felt on the exposure; and if the salt be left in contact with the wound, the caustic character of the salt is brought out intensely, the cutaneous tissue is decomposed, and violent inflammation is established. These symptoms are accompanied with intense pain, especially in winter, when the cold is severe; the action of the salt does not cease until the cauterization has penetrated to bone.

When a workman is clean and careful, he prevents these accidents; but if he is careless, and allows the bichromate, either in powder or solution, to touch abraded parts, or sores, or wounded surfaces, he must immediately use remedial measures, or suffer a severe penalty. In some cases, where the workmen are too lightly clad, they are attacked with violent itchings, followed by suppuration and ulceration of the moist surface of the penis, around the glans. This condition may progress until a disorder not unlike syphilitic ulceration may be presented.

The effects of the bichromate are shown on inferior animals as well as man. Horses employed in the manufactory, and which walk over the salt, are attacked in the feet; the hoof falls off, the inflammation extends to the upper part of the leg, causing the hair to fall off, even to complete denudation. From a series of facts related to the reporters by M. Clouet, a manufacturer at Havre, some important particulars are supplied. A horse employed in carrying the bichromate was attacked in one of his hind feet. The wound became so painful as to necessitate absolute rest; the master of the horse not understanding the treatment, the suppuration went on, extending through the limbs, the skin of two legs fell off, and an enormous suppurated surface invaded the almost entire half of the body of the animal. Death occurred a month after the commencement of the malady. The writer remarks that it is as though, when the decomposition had commenced, it went on indefinitely; there is a veritable metamorphosis of the cutaneous tissues and of the flesh altogether, analogous to fermentative action.

Dogs and cats are also subject to similar accidents from the bichromate. These animals, from walking amongst the refuse of the manufactory, are frequently affected; the skin of their feet becomes laid bare, and suppuration follows. In one instance, a rat, killed in a manufactory, was found to have all his feet suppurating, and partially destroyed, as if gnawed.

M. Clouet—to whom, as we have said, the report is much indebted—supplied also to the authors certain facts relating to the internal exhibition of the bichromate of potassa. He says that in a small dose, a few centigrammes, it acts as a purgative; if in larger doses, say of one gramme, it acts as a poison. In large doses, it produces colic and purging, but no vomiting. In one manufactory, certain of the workmen placed some bichromate of potassa in a barrel of cider. as a joke. The cider was rendered of a dark colour; but, notwithstanding, other of the workmen drank the cider, and were all affected with severe colic and diarrhœa.

In a second account sent to the reporters by M. Clouet, the facts of his previous statements were confirmed, and certain further details were offered, which are of interest. Thus it was shown that both sexes were equally influenced, and at all ages; and that the affection of the septum of the nostril usually made its appearance within a week after exposure. The disease of the septum was very easily brought about in those workman who, having stained their fingers with the chromate, put them into the nostril. M. Clouet also observed in every case, that in those men in whom the septum was entirely removed, nasal catarrh was unknown.

In respect to treatment, various observations have been carried out. As a preventive of the nasal disease, the use of snuff seems very effectual. In some cases the workmen apply a wet sponge before the nostrils when they are exposed to the vapour; and the plan seems to be advantageous. When the skin is abraded, and the chromate has produced ulceration, it is the best treatment to wash thoroughly with a feeble alkaline water; then, if inflammatory action follows, to poultice, and afterwards to apply freely subacetate of lead in solution.—*Brit. and For. Med.-Chirurg. Rev.*, Oct. 1863, from *Annales d'Hygiène Publique*, July, 1863.

49. *Poisoning by Cyanide of Potassium. Dangers to Photographers.*—Dr. DAVANNE directs attention to the dangers to which those who are engaged in the art of photography are exposed. They use constantly, he says, two of the most active poisons—namely, cyanide of potassium and bichloride of mercury. Their hands are constantly in contact with strong solutions of these poisons; and often, in spite of repeated warnings, they run absurd risks. The author gives an account of a case in which a gentleman, who had stained his hand with nitrate of silver, endeavoured to remove the stain by rubbing over it cyanide of potassium freely. In the act, he slid under the nail of one of his fingers a small portion of the cyanide salt. At first he did not notice this, but in a little time he felt a sharp pain in the part, followed, after a few minutes, by an intense vertigo, so that all objects appeared to be moving around him. To relieve him promptly, he conceived the unfortunate idea of employing vinegar; the cyanide was quickly decomposed, and hydrocyanic acid was produced absolutely. The vertigo now increased accompanied by shiverings, pallor of the face, loss of sight, and great exhaustion. The power of speech was lost, but the intelligence was preserved. The extremities were cold, and as the sight returned there was double vision. The symptoms did not pass away for ten hours.

The treatment adopted consisted of cold and friction on the spinal column, inhalation of ammonia vapour, and the administration of strong infusion of black coffee.—*Ibid.*, from *Canstatt's Jahresb.*, 1862.

50. *Effects of Emerald Green on Paper-Stainers.*—The commissioners appointed to inquire into the health of children in manufactories have published some valuable remarks on the effects of arsenical preparations on the paper-stainers. The commissioners state that the colouring matter consists sometimes of emerald green, in greater or less proportions; and when it does so, it becomes, under certain circumstances, a source of danger. The evidence of Dr. Letheby on this subject is particularly deserving of notice, as showing not only the danger to the workpeople, but to persons whose rooms are hung with these arsenical papers, and to those who wear artificial flowers similarly coloured. Dr. Letheby relates a fatal case of a child who was thus poisoned from playing in a room in a gentleman's house which was covered with this green paper. He also states, as showing the amount of arsenical matter, that he has found about a grain of pigment for every square inch of the green leaves of these flowers; adding, "I have seen a wreath with enough arsenic in it to poison twenty people."

The commissioners add—The emerald green is dangerous in this trade.

1st. If it is badly manufactured. Mr. Cook states, "Our emerald green is